REMARKS

Status of the Claims

Claims 1-14 are pending, with claims 1, 4, and 10 being independent.

Initially, Applicants would like to thank the Examiner for discussing the application and the cited art during the interview on June 3, 2004. As discussed during the interview, Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of the following remarks.

The Present Invention

The presently claimed invention relates to a blend of lube base oils, which provides improved oxidation stability, including combined good Oxidator A and Oxidator BN stabilities. According to the presently claimed invention, it has been discovered that lube base oils can be prepared by blending lube base oils, which have poor Oxidator A stability but good Oxidator BN stability, with lube base oils, which have good Oxidator A stability but poor Oxidator BN stability. It has been discovered that the Oxidator A and BN values do not blend linearly, and lube base oils made by blending these components have properties superior to either individual base oil. (Page 8, Paragraph [0037]; Table II; and Page 13, Paragraph [0050]).

As recited in present claim 1, the invention relates to a lube base oil comprising component (a) and component (b). Component (a) is at least one ***synthetic lube base oil*** having an Oxidator A value of less than about 1. Component (b) is at least one percent of a ***non-synthetic lube base oil*** having an Oxidator BN value of less than about 7. The lube base oil, as recited in claim 1, has an Oxidator A value of greater than about 1 and has an Oxidator BN value of greater than about 7.

As recited in claim 4, the invention relates to a lube base oil comprising component (a) and component (b). Component (a) is at least one ***synthetic lube base oil*** having an Oxidator A value of less than about 1. Component (b) is at least one percent of a n***on-synthetic lube base*** oil having an Oxidator BN value of greater than about 7.

The lube base oil, as recited in claim 4, has an Oxidator A value of greater than about 1 and has an Oxidator BN value of greater than about 7.

As recited in claim 10, the invention relates to a lube base oil comprising component (a) and component (b). Component (a) is at least one ***synthetic lube base oil*** having an Oxidator A value of less than about 1 and an Oxidator BN value of greater than about 7. Component (b) is a ***non-synthetic lube base oil*** having an Oxidator A value of greater than about 5 and an Oxidator BN value of less than about 10. The lube base oil, as recited in claim 10, has an Oxidator A value of greater than about 5 and an Oxidator BN value of greater than about 10.

As provided in the present specification, the Oxidator BN test and the Oxidator A test are two separate, standard tests for measuring the stability of lubricant base oils. Accordingly, the Oxidator BN value and the Oxidator A value are the results of the two standardized tests, respectively, for measuring the oxidative stability of the lubricant base oils. As discussed in the interview, the Oxidator BN test is a measure of the oxidation stability during use and the Oxidator A test is a measure of oxidation stability during shipping and storage. These tests are set forth in USPN 3,852,207 (Strangeland et al.). (Page 6, Paragraph [0031]).

As provided in the specification and in the declaration under 37 C.F.R. 1.132, the Oxidator BN test measures the oxidative stability of lubricant base oils during simulated use. The Oxidator BN test is conducted using a Dornte-type oxygen absorption apparatus under standardized conditions as described in the specification (Page 6, Paragraph [0032]) and in the declaration. These standardized conditions include adding, to the lubricant oil to be tested, a catalyst (metal oxidation promoters) and an additive package, both of which are typically found in finished lubricants during use. The additive package used is 80 millimoles of zinc bispolypropylenephenyldithiophosphate per 100 grams of the oil to be tested.

As explained during the interview, the Oxidator BN test is a standardized test that provides a meaningful value by which the oxidative stability of different lubricant base oils may be compared and evaluated. Therefore, the Oxidator BN value would not be

varied by changing the type of additive package used and the amount of additive package used.

The Oxidator A test is a measure of the oxidation stability of the original lubricant base oil during storage. Therefore, the catalyst and the additive package are omitted when conducting this test. The Oxidator A test is also conducted using a Dornte-type oxygen absorption apparatus under the standardized conditions of the Oxidator BN test, except for omission of the catalyst and additive package. Accordingly, the Oxidator A test provides a value that indicates the stability of the original lubricant base oil during storage. As provided above for the Oxidator BN, the Oxidator A test is a standardized test that provides a meaningful value by which the oxidative stability of different lubricant base oils may be compared and evaluated.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 1-14 are rejected under 35 U.S.C. § 103(a) as being obvious over USPN 6,089,301 ("Berlowitz '301") or USPN 6,165,949 ("Berlowitz '949"). Claims 1-14 are also rejected under 35 USC §103(a) as being obvious over USPN 6,332,974 ("Wittenbrink"). As discussed during the interview, Applicants maintain their traversal of these rejections.

Berlowitz '301 relates to a premium synthetic lubricating oil base stock. The synthetic lubricating oil base stock of Berlowitz '301 is made by a Fischer Tropsch process. Berlowitz '301 discloses that the base stock may be blended with one or more base stocks selected from the group consisting of (a) a hydrocarbonaceous base stock, (b) a synthetic base stock, and mixtures thereof. (Col. 2, lines 30-33). Berlowitz '301 discloses that by hydrocarbonaceous it is meant a primarily hydrocarbon type base stock derived from a conventional mineral oil, shale oil, tar, coal liquefaction, and mineral oil derived slack wax. (Col. 5, lines 6-10). Berlowitz '301 further discloses that typical examples of base stocks to be blended with the base stock of the invention include base stocks derived from PAO, mineral oil, mineral oil slack wax hydroisomerate, and mixtures thereof. (Col. 2, lines 33-36).

Berlowitz '949 relates to a wear resistant lubricant comprising at least 95 weight % non-cyclic isoparaffins derived from waxy, paraffinic Fischer Tropsch synthesized hydrocarbons in admixture with an effective amount of an antiwear additive. Berlowitz '949 discloses that the amount of antiwear additive required to achieve a lubricant of a given level of wear resistance using a lubricant base stock derived from waxy Fischer Tropsch synthesized hydrocarbons is less than that required for a similar lubricating oil based on conventional petroleum oil. (Col. 1, lines 57-63).

Wittenbrink relates to a wide-cut lubricant base stock made from a waxy Fischer-Tropsch synthesized hydrocarbon fraction. Wittenbrink teaches that the base stocks of the invention may be combined with conventional additive packages. Wittenbrink further teaches that the base stocks of the invention may be blended with another base stock selected from the group consisting of (i) a hydrocarbonaceous base stock, (ii) a synthetic base stock, and mixtures thereof. Wittenbrink teaches that the Fischer Tropsch base stocks of the invention will have superior properties to the blends. (Col. 4, lines 40-41).

In contrast, as recited in claims 1 and 4, the presently claimed invention relates to a lube base oil comprising component (a) and component (b). Component (a) is at least one ***synthetic lube base oil*** having an Oxidator A value of less than about 1. Component (b) is at least one percent of a ***non-synthetic lube base oil*** having an Oxidator BN value of greater than about 7. The lube base oil, as recited in claims 1 and 4, has an Oxidator A value of greater than about 1 and an Oxidator BN value of greater than about 7. As recited in claim 10, the invention relates to a lube base oil comprising component (a) and component (b). Component (a) is at least one ***synthetic lube base oil*** having an Oxidator A value of less than about 1 and an Oxidator BN value of greater than about 7. Component (b) is a ***non-synthetic lube base oil*** having an Oxidator A value of greater than about 5 and an Oxidator BN value of less than about 10. The lube base oil, as recited in claim 10, has an Oxidator A value of greater than about 5 and an Oxidator BN value of greater than about 10.

It is respectfully submitted that none of Berlowitz '949, Berlowitz '301, and Wittenbrink teach or suggest a lube base oil comprising a ***synthetic lube base oil*** having

an Oxidator A value of less than about 1 ***and*** a ***non-synthetic lube base oil having an Oxidator BN value of less than about 7***, wherein the lube base oil has an Oxidator A value of greater than 1 and an Oxidator BN value of greater than 7. It is further respectfully submitted that none of Berlowitz '949, Berlowitz '301, and Wittenbrink teach or suggest a lube base oil comprising a ***synthetic lube base oil*** having an Oxidator A value of less than about 1 and an Oxidator BN value greater than about 7 ***and*** a ***non-synthetic lube base oil*** having an Oxidator A value greater than about 5 and ***an Oxidator BN value of less than about 10*** , wherein the lube base oil has an Oxidator A value of greater than 5 and an Oxidator BN value of greater than 10.

As presently claimed, the ***non-synthetic lube base oil*** (i.e., component b) has an ***Oxidator BN value*** of ***less than about 7*** (claims 1 and 4) or ***less than about 10*** (claim 10). The Oxidator BN value of component (b) has nothing to do with the fact that additives may be added to provide a fully formulated lubricating oil. As explained above and discussed during the interview, the Oxidator BN value is the result of the Oxidator BN test, which measures the oxidative stability of lubricant base oils during simulated use. The Oxidator BN test is a standardized test that provides values by which the oxidative stability of oils may be compared and evaluated.

With regard to the assertion that it is not clear that the claims at issue differ from the possible oil compositions taught by Berlowitz or Wittenbrink, Applicants respectfully submit that as provided by MPEP § 2112.01,

> Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best,* 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada,* 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best,* 562 F.2d at 1255, 195 USPQ at 433. *See also Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985), *In re Ludtke*, 441 F.2d 660, 169 USPQ 563 (CCPA 1971); *Northam Warren Corp. v. D. F. Newfield Co.*, 7 F.

Supp. 773, 22 USPQ 313 (E.D.N.Y. 1934).

Therefore, according to MPEP § 2112.01, a *prima facie* case of obvious may be rebutted by showing that the prior art does not ***necessarily*** possess the characteristics of the presently claimed invention.

Applicants respectfully assert that evidence showing that the blends of Berlowitz and Wittenbrink do not ***necessarily*** possess the characteristics of the presently claimed invention was provided in the declaration under 37 C.F.R. § 1.132 by John M. Rosenbaum, an expert in the field of lubricant base oils. The declaration demonstrated that ***all*** non-synthetic lubricating base oils do ***not*** have an Oxidator BN value of less than 7, and furthermore, ***all*** non-synthetic lubricating base oils do ***not*** have an Oxidator BN value of less than 10. By demonstrating that all non-synthetic oils tested do not have an Oxidator BN value of less than 7, or less than 10, Applicants have demonstrated that the blends of Berlowitz and Wittenbrink ***do not necessarily*** comprise a non-synthetic lubricant base oil having an Oxidator BN value of less than 7 or less than 10. There is no requirement that the percentage of oils tested, which demonstrate the claimed property, be less than some arbitrary percentage of all possible oils. It is only necessary that the Applicants demonstrate that all non-synthetic lubricant base oils do not necessarily possess the presently claimed characteristics, as was done in the declaration.

It is respectfully submitted that Berlowitz and Wittenbrink do not disclose or suggest the presently claimed lube base oils comprising (a) a synthetic lube base oil, selected for its Oxidator A value, and (b) a ***non-synthetic lube base oil,*** selected for its Oxidator BN value, wherein the lube base oil has an Oxidator A value greater than either component and an Oxidator BN value greater than either component. Applicants respectfully submit that Berlowitz and Wittenbrink have provided no motivation or suggestion for selecting the non-synthetic lubricant base oil, to be blended with the Fischer Tropsch base stock, based on its Oxidator BN value, in particular for selecting a non-synthetic lubricant base oil having an Oxidator BN value of less than about 7 or less than about 10. As such, Berlowitz and Wittenbrink do not disclose or suggest blending a Fischer Tropsch base stock with a hydrocarbonaceous base stock having an Oxidation

BN value of less than about 7 or less than about 10.

Berlowitz and Wittenbrink do not disclose or suggest selecting and blending synthetic and non-synthetic lube base oils in such a way as to provide a blended lube base oil with Oxidator A and Oxidator BN values superior to either individual component base oil. Moreover, in no way do Berlowitz or Wittenbrink disclose or suggest that a blend of a synthetic lube base oil having poor Oxidator A stability and a non-synthetic lube base oil having poor Oxidator BN stability provides a blended lube base oil with improved oxidation stability, including combined good Oxidator A and Oxidator BN stabilities. It is further respectfully submitted that in no way do Berlowitz or Wittenbrink disclose or suggest that Oxidator A and BN values do not blend linearly, and lube base oils, made by blending components chosen for their Oxidator A and Oxidator BN values, have properties superior to either individual base oil.

Accordingly, it is respectfully submitted that Berlowitz '301, Berlowitz '949, and Wittenbrink do not disclose or suggest all of the claim limitations. In addition, as explained above, Applicants respectfully submit that adequate evidence has been provided demonstrating that the blends as disclosed by Berlowitz and Wittenbrink do ***not*** necessarily comprise a non-synthetic lube base oil having an Oxidator BN value of less than 7 or less than about 10. Therefore, Applicants respectfully request that the obviousness rejections be withdrawn.

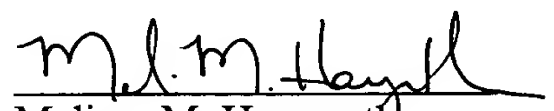
Conclusion

For the reasons noted above, the art of record does not disclose or suggest the inventive concept of the present invention as defined by the claims. Again, Applicants would like to thank the Examiner for the favorable consideration extended during the interview.

In view of the discussion at the interview and the foregoing remarks, reconsideration of the claims and allowance of the subject application is earnestly solicited. The Examiner is invited to contact the undersigned at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 
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